

Altair

Subject:

7th Combined Science

Class: Life: Origins

and Processes

Date: March 18

2011



Teacher's notes

Objectives

Vocabulary

Link and Learn

Prepared by

How do you determine if something is living?

1.

2.

3.

4.

5.

6.

7.



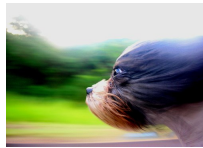
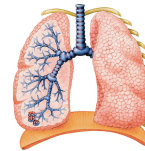
Life processes

In order to consider something living, it must accomplish the following properties or functions of life:



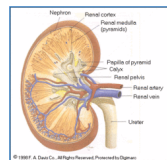
FEEDING

RESPIRATION



MOVEMENT

GROWTH



EXCRETION

SENSITIVITY

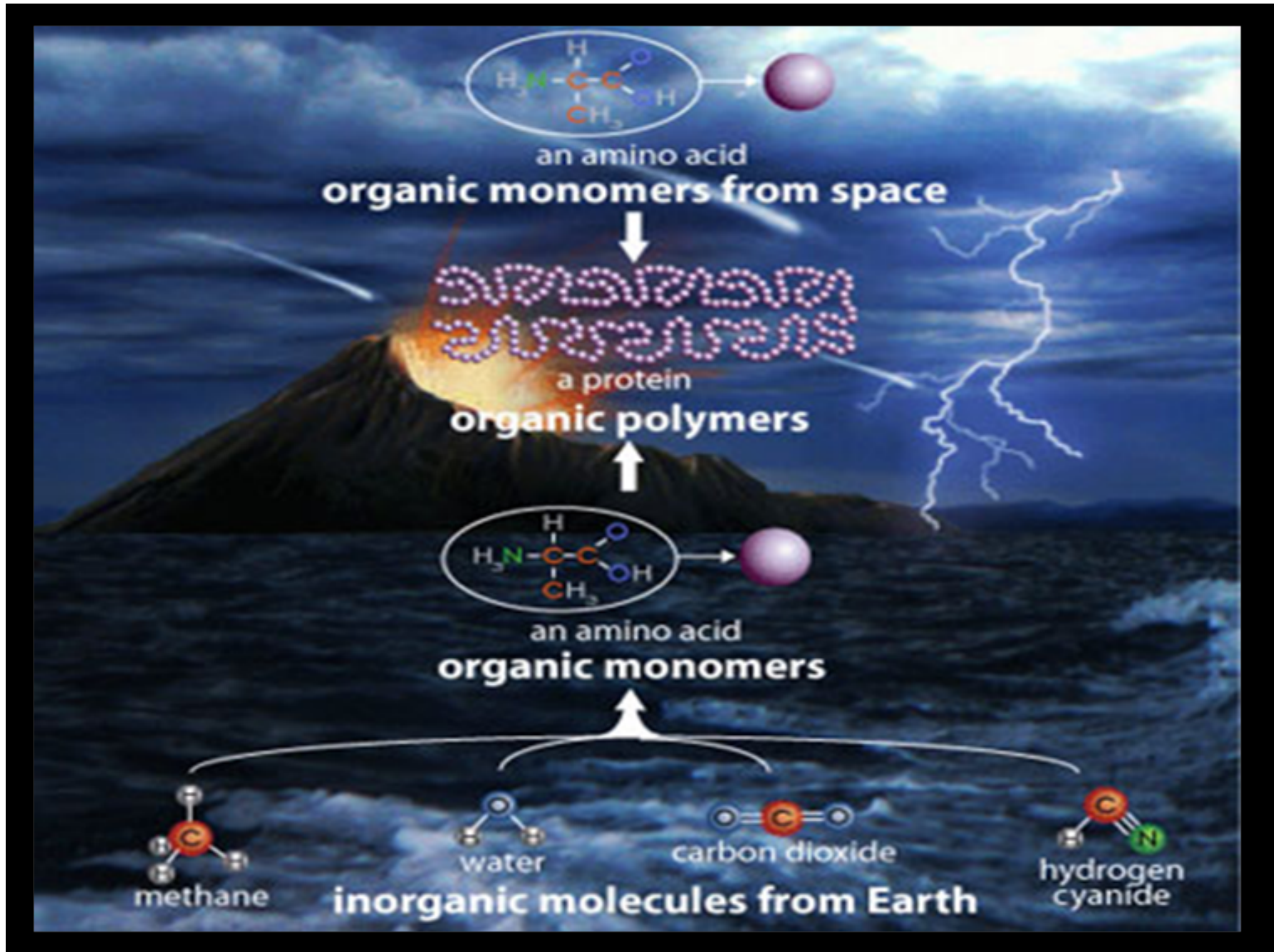


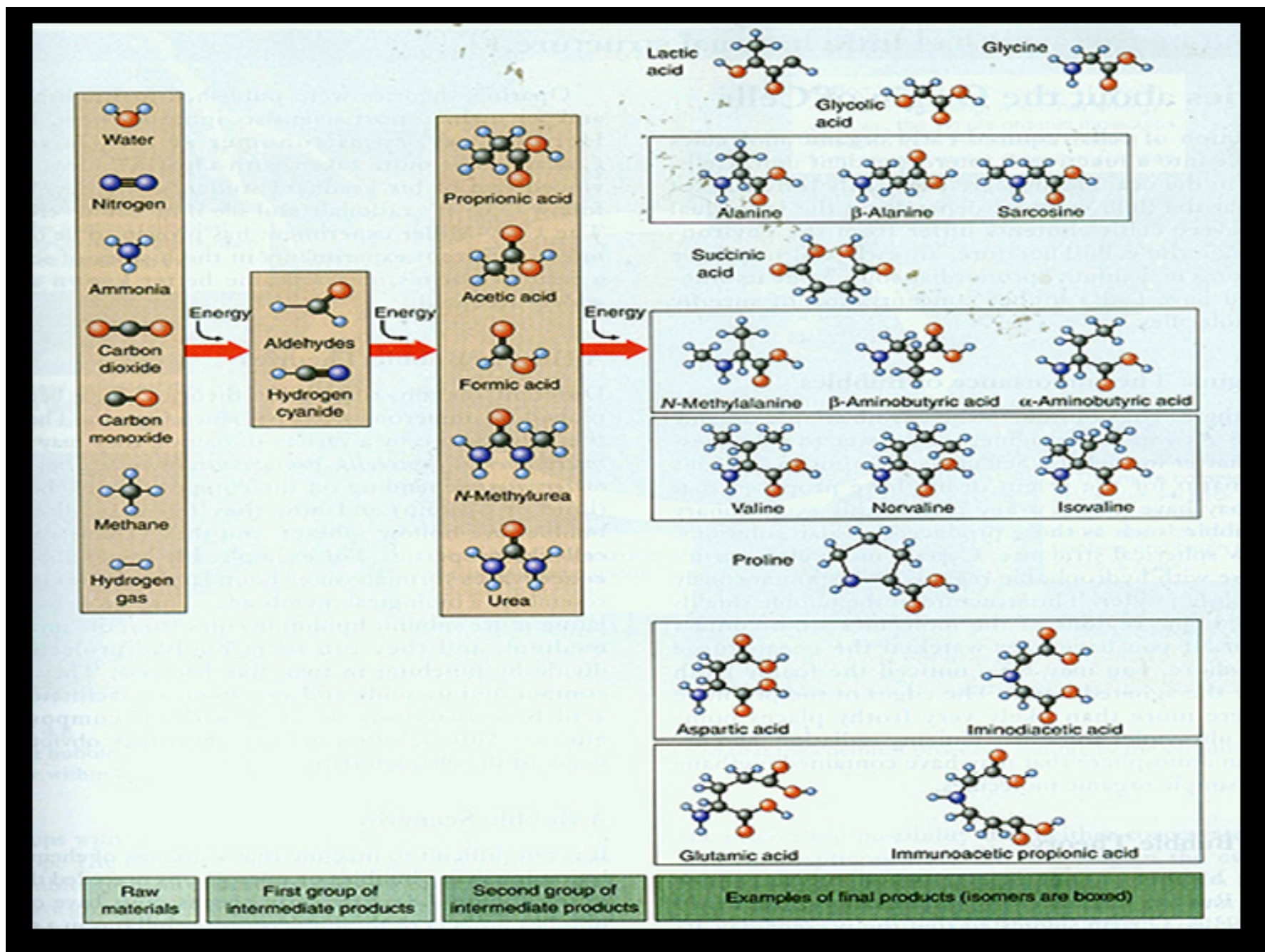
REPRODUCTION

Name 5 major events in Earth's history that are of great importance for Science and put them in chronological order.

How did life begin?

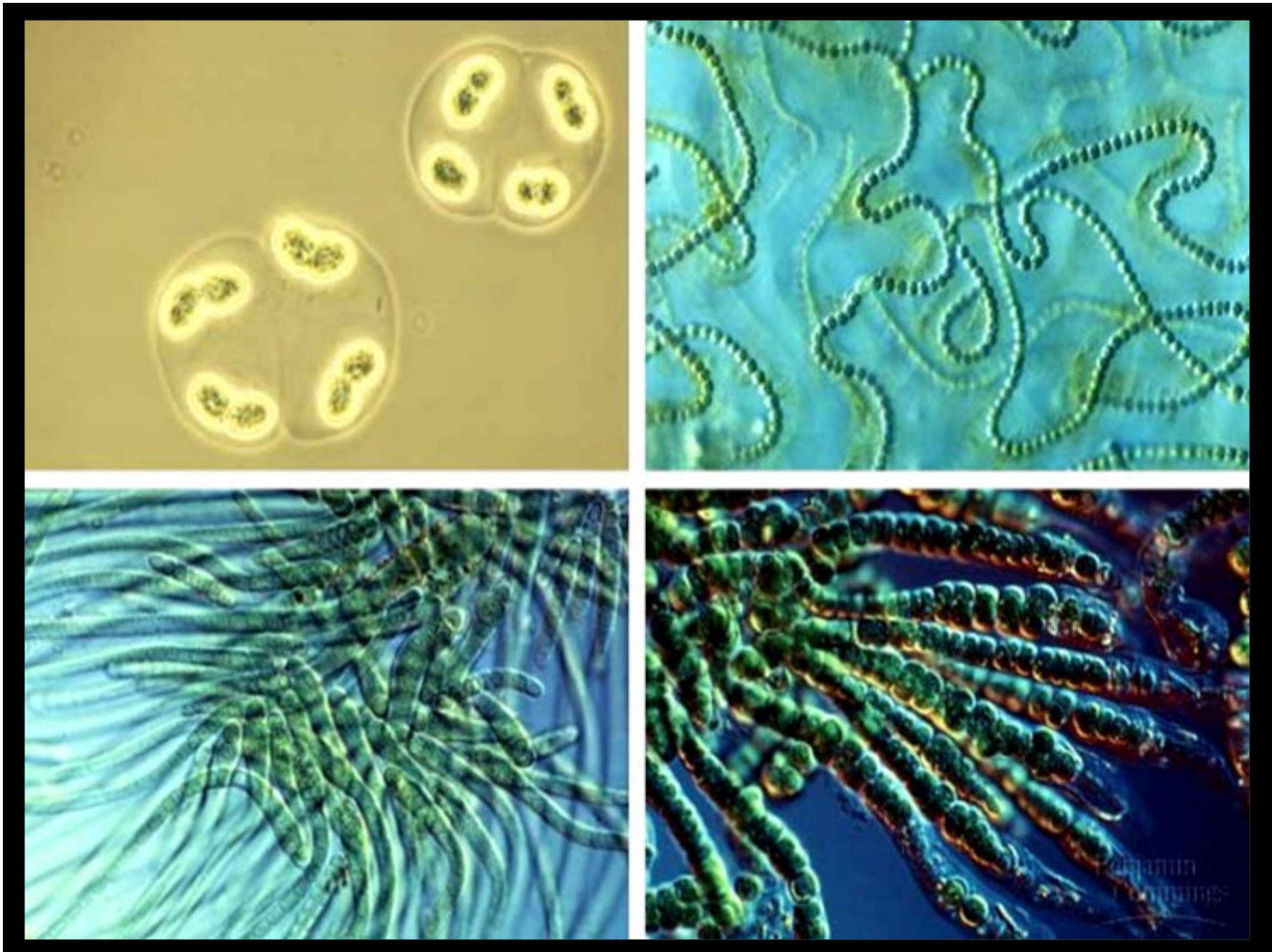
- Scientists think that life developed from simple chemicals in the oceans and in the atmosphere.
- Energy from radiation and storms could have caused these chemicals to react.
- Some of these reactions formed the complex molecules that made life possible.
- The early atmosphere of the Earth did not contain oxygen.
- The first organisms did not need oxygen to survive, these organisms were *prokaryotes*, or single-celled organisms that lack a nucleus.





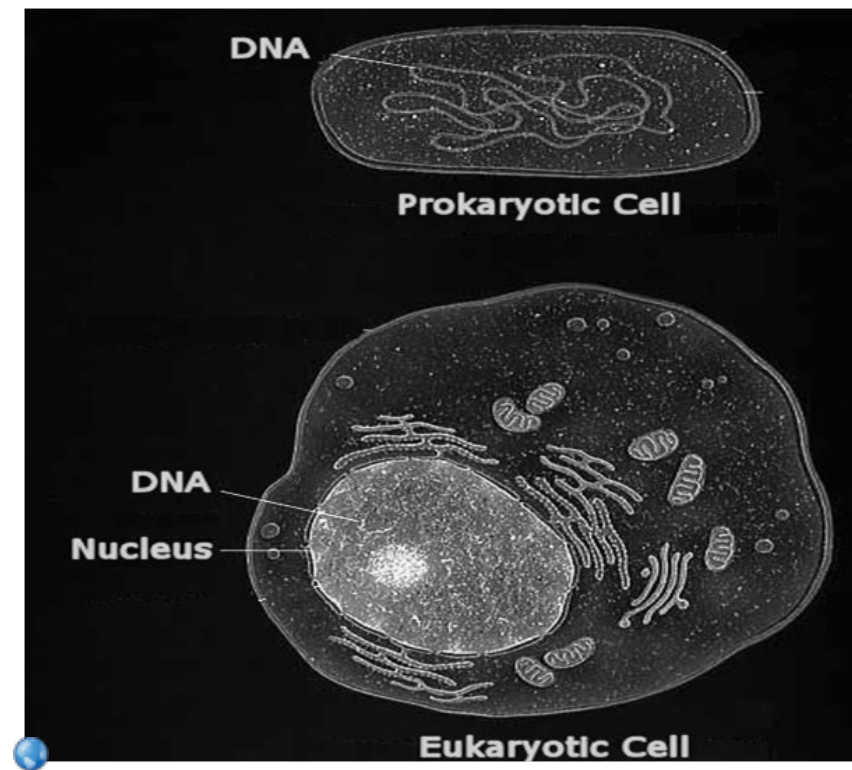
Photosynthesis and Oxygen

- There is evidence that ***Cyanobacteria***, a new kind of prokaryotic organism, appeared more than 3 billion years ago.
- Cyanobacteria use sunlight to produce their own food, releasing oxygen into the oceans and air.
- Eventually, some of the oxygen formed a new layer of gas in the upper atmosphere, this gas called ***ozone***, absorbs harmful radiation from the sun.
- Before ozone formed, life existed only in the oceans and underground.
- The new ozone layer reduced the radiation on Earth's surface.



Multicellular Organisms

- One billion years ago, organisms more complex than prokaryotes appeared in the fossil record, they're known as ***eukaryotes***.
- Eukaryotes contain a nucleus and other complex structures in their cells.



The Origin of Life

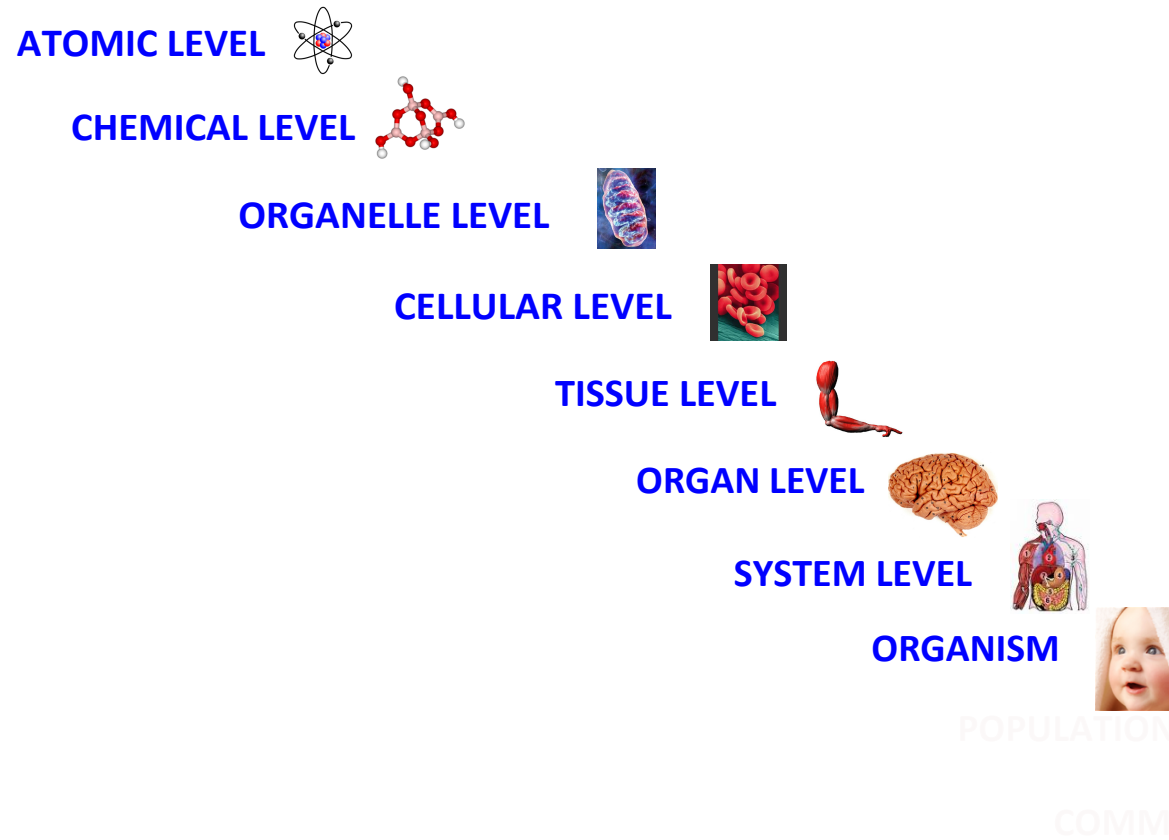


<http://goo.gl/L1DF0>

1. How do you determine the complexity of an Organism?

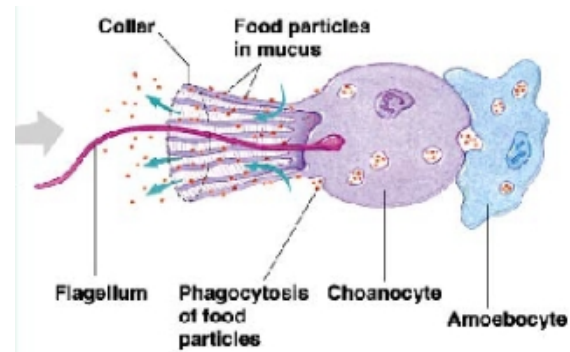
Answer

2. What are the Levels of Organization in Living Organisms?

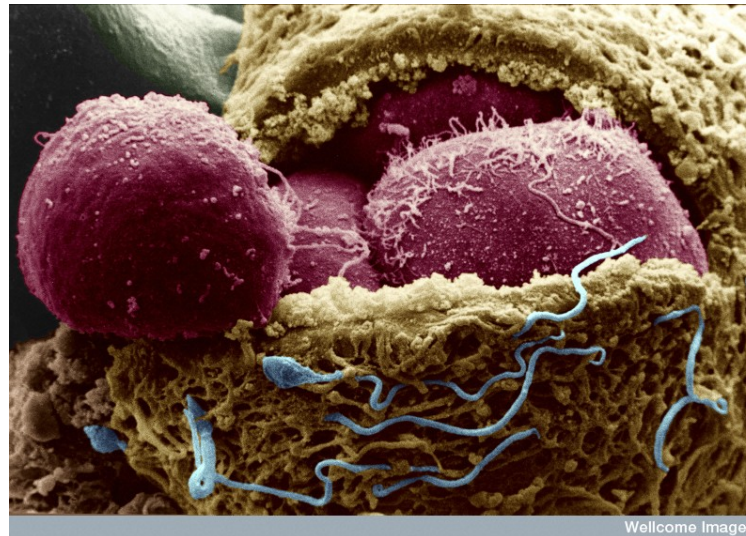


Complexity in Living Organisms

- The level of complexity that different living organisms have achieved is only possible thanks to the complexity, organization, and the communication of its components.



From a relatively simple cell that filters water to survive.



To a group of cells that give rise to one of the most complex animals, a human.

Prepare an Infographic representation of the Origins of Life

1. After forming groups, get together and distribute roles.
2. Contribute with ideas and information about the origin of life.
3. Organize the ideas and choose a representation that contains information and graphics.
4. Work together to produce your Infographics.

MATERIALS

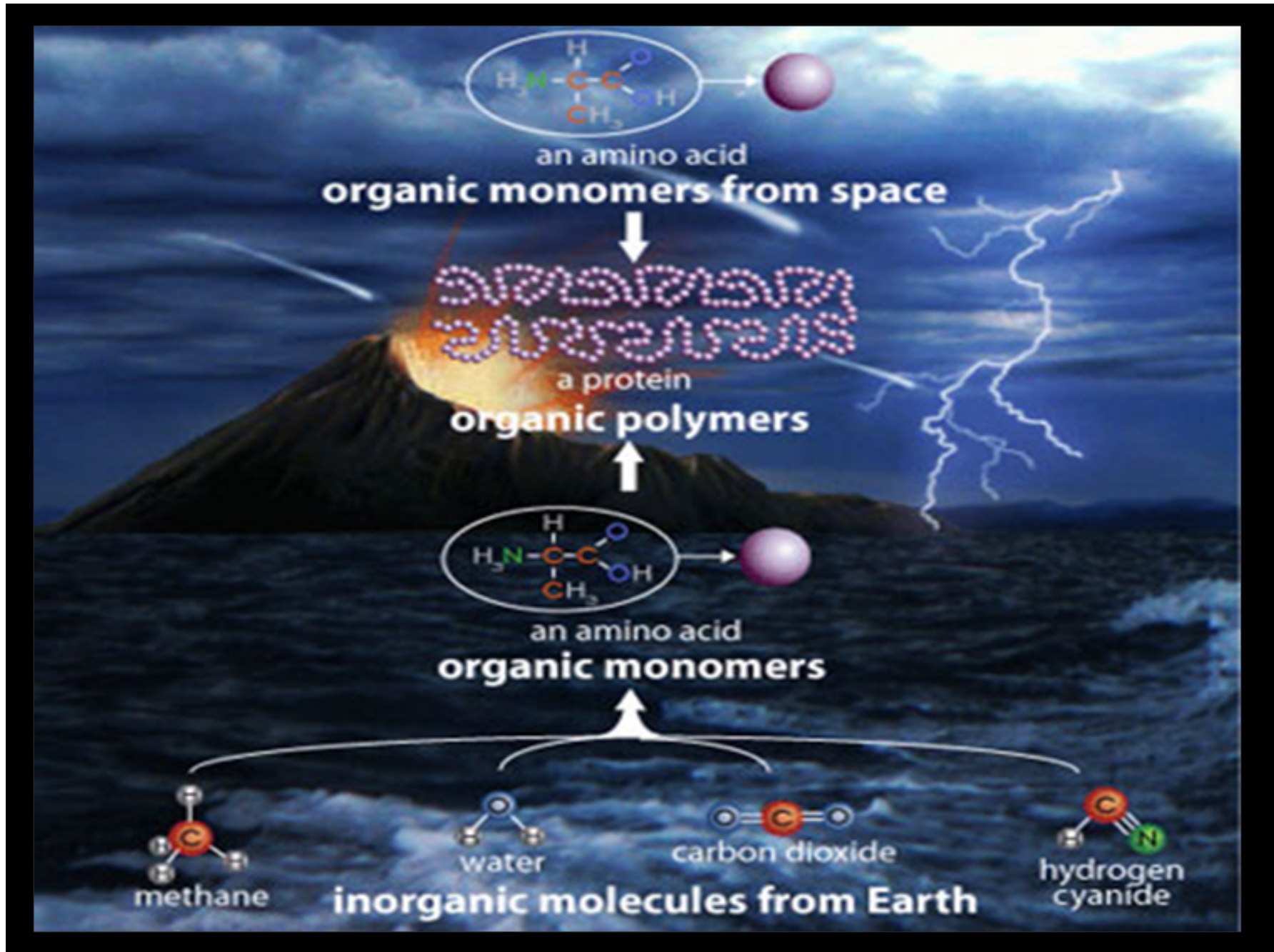
- White Paper (extra large).
- Colored pencils, paints or markers.
- Lots of imagination and creativity!!!

Examples of Infographics

<http://goo.gl/KFIM6> <http://goo.gl/xqtfa> <http://goo.gl/nWtVX>

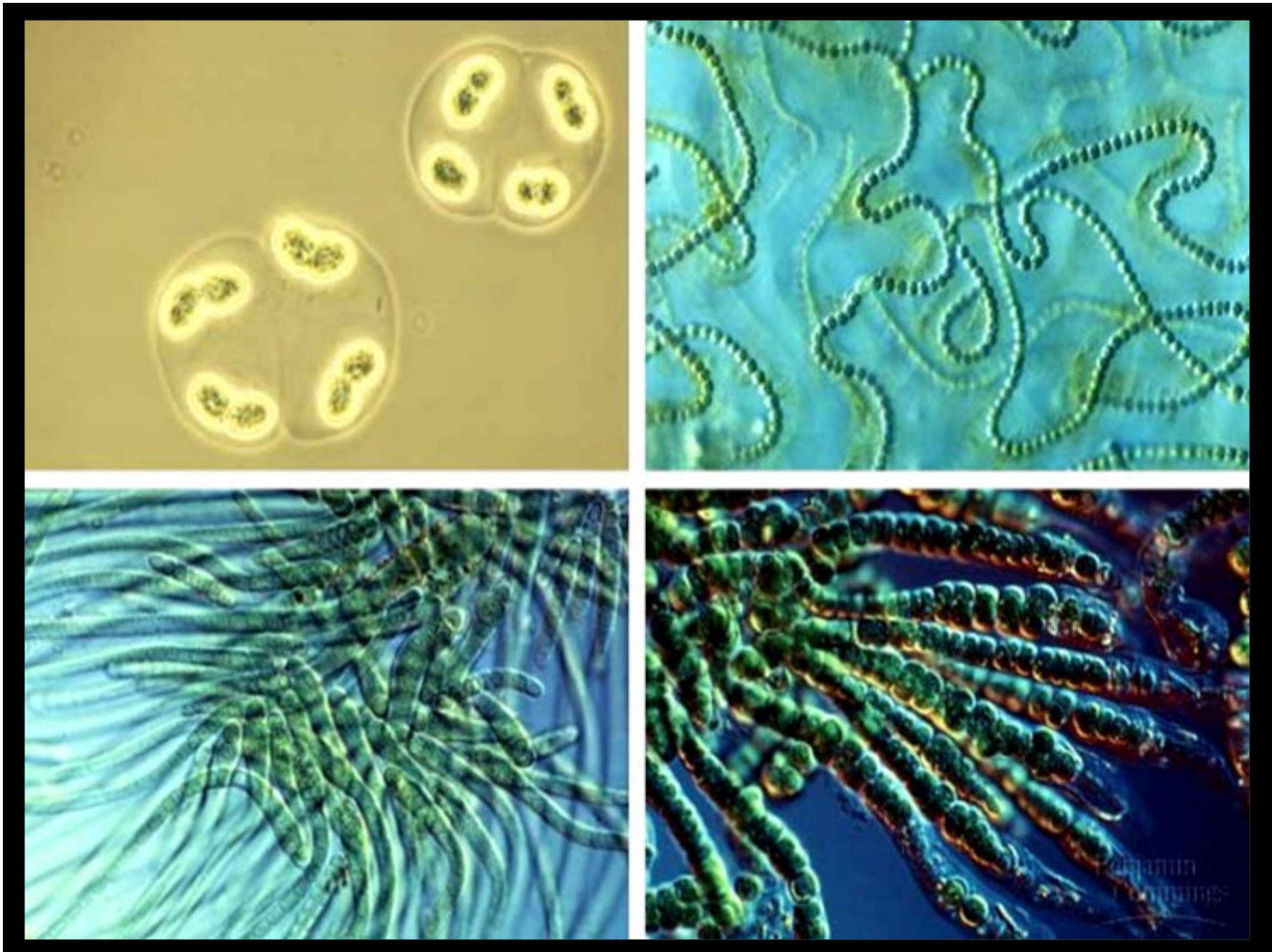
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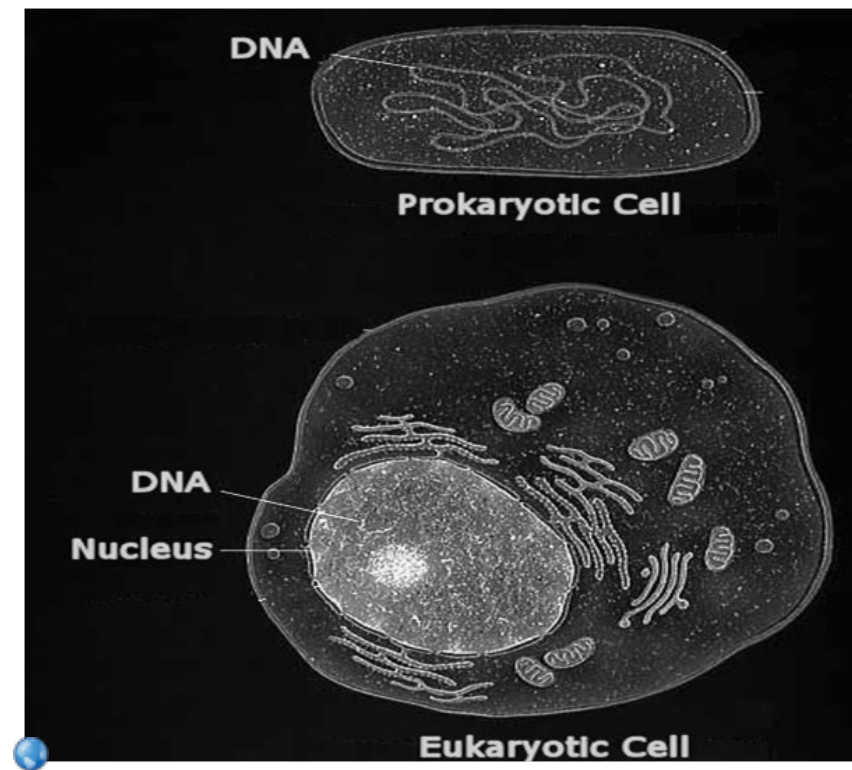
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The Origin of Life



<http://goo.gl/L1DF0>

Teacher's Notes

This class has been designed to cover the topics of *Life origins and life processes* from Monday, March 14th till Friday, March 18th.

For further knowledge about this topic:

- 1. Conduct a thorough search under the topic: *Life origins and life processes* on the Web, books and magazines.**
- 2. If findings are not specific, ask your teacher for suggestions.**

BACK

Objectives

- Identify the characteristics and major events that happened before and after the origins of life.
- Determine the main characteristics of living things, the 7 life processes.
- Describe the levels of organization and complexity of living things.

Note: *All, or most, of the objectives will be covered during class time, however the student must be responsible for those objectives not covered or concluded.*

BACK

Vocabulary

- Life:
- Process:
- Origin:
- Prokaryote:
- Eukaryote:

***Note:** Most of the vocabulary words will be covered during class time, however the student must be responsible for those words not covered or concluded.*

BACK

Link and Learn

You can visit the following websites to improve your understanding on the present topic:

- <http://goo.gl/cXOe8>
- <http://goo.gl/0dUeQ>
- <http://goo.gl/pyBNh>
- <http://science-learning2011.wikispaces.com>
- <http://learningandscience.blogspot.com>

BACK

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